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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,588	10/31/2003	Ezio Valdevit	112-0124US	1886

85197 7590 04/28/2011  
Brocade-Wong Cabello Lutsch Rutherford  
& Brucculeri LLP  
20333 Tomball Parkway, 6th Floor  
Houston, TX 77070

EXAMINER
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ADHAMI, MOHAMMAD SAJJID

ART UNIT	PAPER NUMBER
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2471

NOTIFICATION DATE	DELIVERY MODE
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04/28/2011

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

WCPatent@counselip.com  
klutsch@counselip.com  
sconroy@counselip.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/699,588	<b>Applicant(s)</b> VALDEVIT, EZIO	
	<b>Examiner</b> MOHAMMAD S. ADHAMI	<b>Art Unit</b> 2471	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 February 2011.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9,11-18,55-63,65-72 and 83-130 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9,11-18,55-63,65-72,83-130 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

1. In view of the Appeal Brief filed on 2/9/2011, PROSECUTION IS HEREBY REOPENED. A new grounds of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claim 1,8,9,11,12,16-18,55,62,63,65,66,70-72,83,90-93,97-99,106-109,113-115,122-125,129, and 130 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cometto (US 7,206,288) in view of Winter (US App. 2005/0086368).

**Re claims 1,55,83,99, and 115:**

Cometto discloses *a first and second node fibre channel device connected to a fabric* (Fig.1 ref.103 and 123 are node devices).

Cometto further discloses *a fibre channel fabric connected to the first and second node devices* (Fig.1 ref. 131).

Cometto further discloses *the fibre channel fabric including a first fibre channel switch and a second fibre channel switch coupled to the first switch* (Fig.1 ref. 101,111,113,115,117,119, 121 are coupled fibre channel switches).

Cometto further discloses *the first and second switch having previously determined all routes between all switches and all nodes in the fabric* (Col.1 lines 35-37 determining characteristics associated with routes in fibre channel networks and Col.6 lines 31-32 synchronization is maintained with other fibre channel switches).

Cometto further discloses *a plurality of ports configured to receive and transmit frames* (Col.6 lines 38-39 received at an input port. It should be noted that a fibre channel switch can have one or more input ports and Col.6 line 59 an output port is then selected).

Cometto further discloses *a fabric manager coupled to the ports to obtain the received frame and provide a frame to be transmitted* (Fig.1 where the fibre channel switches contain ports and Col.1 lines 50-51 the fibre channel frame is transmitted downstream toward the destination).

Cometto further discloses *the fabric manager configured to add information to the frame, the information including receive and transmit port identity and switch identity* (Col.6 lines 46-50 changing header information as well as adding information such as an input port number and a field uniquely identifying the switch and Col.7 lines 21-22 source and destination identifiers in the frames are swapped).

Cometto further discloses *adding information to a received frame* (Col.6 lines 46-50 changing header information as well as adding information such as an input port number and a field uniquely identifying the switch and Col.7 lines 21-22 source and destination identifiers in the frames are swapped).

Cometto does not explicitly disclose *sending measured transmit and receive rates of the port, wherein the measured transmit and receive rates of the port are determined from an amount of data respectively transmitted and received by the port during a defined time period.*

Winter discloses *sending measured transmit and receive rates of the port, wherein the measured transmit and receive rates of the port are determined from an amount of data respectively transmitted and received by the port during a defined time period* (Para.[0016] Each identification message may contain characteristic information about the first node or first port, including, a speed of the first port. Each identification message may contain statistical information about the first port, such as a number of frames sent, a number of frames received. The statistics will be maintained and may be calculated over some period of time).

Cometto and Winter are analogous because they both pertain to data communication.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Cometto of adding information to a received frame to include measured transmit and received rates as taught by Winter in order to more efficiently choose a path for transmission and to minimize congestion.

**Re claims 8, 62,90,106, and 122:**

Cometto discloses *an original source and an original destination* (Col.1 lines 46-47 The fibre channel frame identifies the source fibre channel switch and a destination).

Cometto further discloses *adding information to the frame when the frame is traveling from the original source to the original destination* (Col.4 lines 46-48

Each intermediate hop in the route toward the destination also inserts time stamp information into the frame).

**Re claims 9,63,91,107, and 123:**

Cometto discloses *adding information to the frame when the frame is traveling from the original destination to the original source* (Col.7 lines 9-35 A loopback switch may also be a destination switch. Source and destination identifiers in the frame are swapped. Other source and destination information is swapped).

**Re claims 11,12,65,66,92,93,108,109,124, and 125:**

Cometto discloses *selecting the port to transmit the frame based on source routing information contained in the frame* (Col.2 lines 7-8 the fibre channel frame identifying the source fibre channel switch and a destination - where the source and destination information is used to route the frame).

**Re claims 16 and 70:**

Cometto discloses *an extended link services frame* (Fig.2 Extended Inter-switch Links header).

**Re claims 17,71,97,113, and 129:**

Cometto discloses *determining if the switch is the original destination of the frame, and if so, modifying the frame to cause it to return to the original source* (Col.7 lines 9-35 A loopback switch may also be a destination switch. Source and destination identifiers in the frame are swapped. Other source and destination information is swapped).

**Re claims 18,72,98,114, and 130:**

Cometto discloses *determining if the switch was the original source of the frame and if so, to capture the frame and not further transmit the frame* (Col.1 lines 47-50 The fibre channel frame includes a loopback field indicating that the fibre channel frame should be looked back to the source fibre channel switch).

2. Claims 2-7,56-61, 84-89,100-105, and 116-121 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cometto in view of Winter as applied to claims 1,55,83,99, and 115 above, and further in view of Soumiya (US 6,671,257).

**Re claims 2-7,56-61, 84-89,100-105, and 116-121:**

As discussed above, Cometto meets all the limitations of the parent claim.

Cometto further discloses *information including the link cost of a link* (Col.6 lines 53-55 the techniques of the present invention provide mechanisms for determining characteristics for transmission between many hops in a route between a source and the destination - where the determined characteristics are a "link cost").

Cometto does not explicitly disclose *the information including transmit and receive rates based on a defined period and the number of frames and words transmitted and received*.

Winter discloses *the information including transmit and receive rates based on a defined period and the number of frames and words transmitted and received* (Para.[0016] Each identification message may contain characteristic information about the first node or first port, including, a speed of the first port.



Each identification message may contain statistical information about the first port, such as a number of frames sent, a number of frames received. The statistics will be maintained and may be calculated over some period of time).

Cometto and Winter are analogous because they both pertain to data communication.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Cometto of adding information to a received frame to include rate information as taught by Winter in order to more efficiently choose a path for transmission and to minimize congestion.

Cometto does not explicitly disclose *rate information based on a first defined period and a second defined period that is greater than the first defined period.*

Soumiya discloses *rate information based on a first defined period and a second defined period that is greater than the first defined period* (Fig.26 ref. 8~9 is a rate field, Col.26 lines 21-23 the rate changing unit may change the explicit rate that the rate calculating unit calculates at a predetermined ratio and Col.35 lines 21-36 the prolongment of the observation period means that an interval between ER calculation times becomes longer. The capability for calculating the ER in an observation period which is shorter than a specified observation period and Col.7 lines 27-28 “an arrived cell number counter for counting a number of arrived cells in correspondence with an output channel” where calculating the

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transmission rate also contains information about the amount of frames and words transmitted).

Cometto and Soumiya are analogous because they both pertain to network communications.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Cometto to include rate information as taught by Soumiya in order to more efficiently choose a path for transmission and to minimize congestion.

3. Claims 13,67,94,110, and 126 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cometto in view of Winter as applied to claims 12,30,48, and 66 above, and further in view of Wong (US 6,363,077).

**Re claims 13,67,94,110, and 126:**

As discussed above, Cometto meets all the limitations of the parent claims.

Cometto does not explicitly disclose *using normal routing rules if the source routing information does not indicate a device directly connected to the switch*.

Wong discloses *using normal routing rules if the source routing information does not indicate a device directly connected to the switch* (Col.9 lines 53-67 If the destination port is a local network port of the current receiving device, only a local transaction must be processed. If the destination port is a network port of a device of the fabric other than the current receiving device, the

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data packet must be transferred from the current receiving device to the destination device via the data ring by processing).

Cometto and Wong are analogous because they both pertain to data communication.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Cometto to include using normal routing rules if the source routing information does not indicate a device directly connected to the switch as taught by Wong in order to process transmit a packet to the destination and to allow packet processing.

4. Claims 14,68,95,111, and 127 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cometto in view of Winter as applied to claims 12,30,48, and 66 above, and further in view of Fredericks (US 6,347,334).

**Re claims 14,68,95,111, and 127:**

As discussed above, Cometto meets all the limitations of the parent claims.

Cometto further discloses *determining a destination address by retrieving data from the frame payload* (Fig.2 ref.221,223,225, and 227 and Col.5 lines 26-37 a world wide name (WWN)).

Cometto does not explicitly disclose *the frame is destination addressed to a well known address*.

Fredericks discloses *the frame is destination addressed to a well known address* (Col.6 lines 29-31 the RNID ELS message is sent to the Fabric Controller at the address hex “FFFFFFD” as is well known).

Cometto and Fredericks are analogous because they both pertain to data communications.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Cometto to include a frame destined to a well known address as taught by Fredericks in order to use a standard network setup and standard and well-known messaging.

5. Claims 15,69,96,112, and 128 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cometto in view of Winter as applied to claims 12,30,48, and 66 above, and further in view of Kanetake (US App. 2003/0137978).

**Re claims 15,69,96,112, and 128:**

As discussed above, Cometto meets all the limitations of the parent claims.

Cometto does not explicitly disclose *a plurality of equal cost routes that can be used for transmitting and transmitting the frame over all of such routes*.

Kanetake discloses *a plurality of equal cost routes that can be used for transmitting and transmitting the frame over all of such routes* (Para.[0004] Equal Cost Multipath (ECMP). If the topology is such that equal cost paths exists, then an attempt is made to divide traffic equally among the paths).

Cometto and Kanetake are analogous because they both pertain to data communication.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Cometto to include routing the frame over all equal cost routes as taught by Kanetake in order to efficiently use resources and load balance.

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1,55,83, 99, and 115 have been considered but are moot in view of the new ground(s) of rejection.

7. Applicant's arguments filed 2/9/2011 have been fully considered but they are not persuasive.

In the remarks, Applicant contends Cometto does not disclose how a frame is routed, i.e. whether normal routing or source routing is used.

The Examiner respectfully disagrees. Cometto does disclose how a frame is routed (Col.2 lines 7-8 the fibre channel frame identifying the source fibre channel switch and a destination - where the source and destination information is used to route the frame). The routing information in the packet is used to route the frame. Port numbers are included as part of the routing information (Col.5 lines 26-37).

In the remarks, Applicant contends Wong does not disclose using normal routing rules if the source routing information does not indicate a device directly connected to the switch.

The Examiner respectfully disagrees. Wong does disclose using normal routing rules if the source routing information does not indicate a device directly connected to the switch (Col.9 lines 53-67 If the destination port is a local network port of the current receiving device, only a local transaction must be processed. If the destination port is a network port of a device of the fabric other than the current receiving device, the data packet must be transferred from the current receiving device to the destination device via the data ring by processing). In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the source including information into the packet) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The claim limitation states source routing information, which is a broad limitation and is not limited to the meaning a source including information into the packet.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MOHAMMAD S. ADHAMI whose telephone number is (571)272-8615. The examiner can normally be reached on Monday-Friday 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571)272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mohammad S Adhami/  
Examiner, Art Unit 2471

/Chi H Pham/  
Supervisory Patent Examiner, Art  
Unit 2471